

IN THE  
UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Eric M. Rentschler, et al.

Confirmation No.:

Application No.:

Examiner:

Filing Date: 10/14/2003

Group Art Unit:

Title: MEMORY CONTROLLER WITH 1X/MX READ CAPABILITY

Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

This Information Disclosure Statement is submitted:

- (X) under 37 CFR 1.97(b), or  
(Within three months of filing national application; or date of entry of national application; or before mailing date of first office action on the merits; whichever occurs last)
- ( ) under 37 CFR 1.97(c) together with either a:  
( ) Statement under 37 CFR 1.97(e), or  
( ) a \$180.00 fee under 37 CFR 1.17(p), or  
(After the CFR 1.97 (b) time period, but before final action or notice of allowance, whichever occurs first)
- ( ) under 37 CFR 1.97 (d) together with a:  
( ) Statement under 37 CFR 1.97(e)(1) or (2), and  
( ) a \$180.00 fee set forth in 37 CFR 1.17(p).  
(Filed after final action, a notice of allowance, on or before payment of the issue fee)

Please charge to Deposit Account **08-2025** the sum of \$0.00. At any time during the pendency of this application, please charge any fees required or credit any overpayment to Deposit Account **08-2025** pursuant to 37 CFR 1.25.

(X) Applicant(s) submit herewith Form PTO 1449 - Information Disclosure Statement together with any required copies of patents, publications or other information of which applicant(s) are aware, which applicant(s) believe(s) may be material to the examination of this application and for which there may be a duty to disclose in accordance with 37 CFR 1.56.

( ) A concise explanation of the relevance of foreign language patents, foreign language publications and other foreign language information listed on PTO Form 1449, as presently understood by the individual(s) designated in 37 CFR 1.56 (c) most knowledgeable about the content is given on the attached sheet, or where a foreign language patent is cited in a search report or other action by a foreign patent office in a counterpart foreign application, an English language version of the search report or action which indicates the degree of relevance found by the foreign office is listed on form PTO 1449 and is enclosed herewith.

It is requested that the information disclosed herein be made of record in this application.

"Express Mail" label no. EL 964691802 US

Date of Deposit 10/14/2003

I hereby certify that this is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to: Commissioner for Patents, Alexandria, VA 22313-1450.

By

Typed Name: Gregory W. Osterloth

Respectfully submitted,

Eric M. Rentschler, et al.

By

Gregory W. Osterloth

Attorney/Agent for Applicant(s)

Reg. No. 36,232

Date: 10/14/2003

<b>FORM PTO-1449</b>  <b>LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT</b>  (Use several sheets if necessary)	ATTY. DOCKET NO.	APPLICATION NO.	CONFIRMATION NO.
	<b>10004119-3</b>		
	APPLICANT		
	<b>Eric M. Rentschler, et al.</b>		
	FILING DATE	GROUP	
	<b>10/14/2003</b>		

## REFERENCE DESIGNATION

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	PUBLICATION DATE	NAME	Pages, Columns, Lines Where Relevant Passages or Figures Appear
	1A	5,418,924	05/1995	Dresser	
	1B	5,522,064	05/1996	Aldereguia et al.	
	1C	5,701,438	12/1997	Bains	
	1D	5,727,005	03/1998	Le et al.	
	1E	5,809,340	09/1998	Bertone et al.	
	1F	5,974,499	10/1999	Norman et al.	
	1G	6,005,412	12/1999	Ranjan et al.	
	1H	6,065,132	05/2000	Takano, Toshiya	
	1I	6,125,078	09/2000	Ooishi et al.	
	1J	6,144,598	11/2000	Cooper et al.	
	1K	6,288,971 B1	09/2001	Kim	

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	PUBLICATION DATE	NAME OF PATENTEE OR APPLICANT	Pages/Columns/Lines Where Relevant Passages/Figures Appear	Check if Translation attached
	1L	WO99/04494	01/28/1999	Intel Corporation		
	1M					
	1N					
	1O					
	1P					

## OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

	1Q	"DDR SDRAM Registered DIMM Design Specification", IBM, March 2000 (62 pages)
	1R	"DDR SDRAM Module Serial Presence Detect Definitions", IBM, October 1999 (34 pages)
	1S	JEDEC Standard No. 79, "Double Data Rate (DDR) SDRAM Specification", June 2000 (72 pages)

EXAMINER

DATE CONSIDERED

FORM PTO-1449

LIST OF PATENTS AND PUBLICATIONS FOR  
APPLICANT'S INFORMATION DISCLOSURE  
STATEMENT

(Use several sheets if necessary).

ATTY. DOCKET NO.

10004119-3

APPLICATION NO.

CONFIRMATION NO.

APPLICANT

Eric M. Rentschler, et al.

FILING DATE

10/14/2003

GROUP

## REFERENCE DESIGNATION

## U.S. PATENT DOCUMENTS

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	2A	6,324,119	11/2001	Kim	
	2B	6,338,113	01/2002	Kubo et al.	
	2C	6,370,630	04/2002	Mizuyabu et al.	
	2D	6,414,868	07/2002	Wong et al.	
	2E	6,424,198	07/2002	Wolford	
	2F	6,480,946	11/2002	Tomishima et al.	
	2G	6,530,001	03/2003	Lee, Jung-Keun	
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	2J	6,625,702	09/2003	Rentschler, et al.	
	2K	6,633,965	10/2003	Rentschler et al.	

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	PUBLICATION DATE	NAME OF PATENTEE OR APPLICANT	Pages/Columns/Lines Where Relevant Passages/Figures Appear	Check if Translation attached
	2L					
	2M					
	2N					
	2O					
	2P					

## OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

	2Q	"Preliminary Publication of JEDEC Semiconductor Memory Standards-DDR SDRAM Specification", August 1999 (73 pages)
	2R	
	2S	

EXAMINER

DATE CONSIDERED

FORM PTO-1449

LIST OF PATENTS AND PUBLICATIONS FOR  
APPLICANT'S INFORMATION DISCLOSURE  
STATEMENT

(Use several sheets if necessary)

ATTY. DOCKET NO.

100041193

APPLICATION NO.

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APPLICANT

Eric M. Rentschler, et al.

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## REFERENCE DESIGNATION

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	PUBLICATION DATE	NAME	Pages, Columns, Lines Where Relevant Passages or Figures Appear
	3A	2001/0003837	06/2001	Norman et al.	
	3B	2001/0046163	11/2001	Yanagawa, Miki	
	3C	2001/0054135	12/2001	Matsuda	
	3D	2002/0147896	10/2002	Rentschler et al.	
	3E	2002/0172079	11/2002	Hargis et al.	
	3F				
	3G				
	3H				
	3I				
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	3K				

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	3L					
	3M					
	3N					
	3O					
	3P					

## OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

	3Q	
	3R	
	3S	

EXAMINER

DATE CONSIDERED